CHAPTER 7

Monitoring and Evaluation

Monitoring and evaluation are critically important to the success of strategic planning. This chapter presents performance measures the CMA will use in monitoring and evaluating the results of this Plan. They are necessary to:

- Ensure that the Plan is implemented;
- Track the performance of the transportation system over time;
- Assess the results of investment and expenditure programs;
- Ensure that the Plan is producing the cost-effective results that are expected;
- Learn more about "what's working" and "what's not" and under what circumstances;
- Inform needed adjustments in the Plan or the CMA's funding strategy; and
- Ensure that policy mandates produce administration follow-through.

BACKGROUND

The CMA's CMP employs LOS measures to assess the performance of individual routes in the countywide system. The *Countywide Transportation Plan* has a broader purview and a longer-range perspective. It employs additional performance measures that reflect the CMA's broader concerns with environmental quality, economic growth and the reconciliation of freight and passenger transportation needs.

PERFORMANCE MEASURES

Measures used to track the performance of the countywide system provide a portrait of the quality of service that users can obtain from the system, its energy efficiency, its contribution to air quality, its contribution to the County's economy and the productivity with which it delivers service. The Plan's quality-of-service measures are consumer-oriented rather than facility-oriented, and they are designed to avoid bias that favors any individual means of transportation.

Performance measures are used to determine whether the CMA is achieving stated goals.

Table 7.1 outlines performance measures to assess the Plan's impacts. The CMA applied these performance measures in 1996 through 2007, and prepares an annual report entitled *State of Transportation in Alameda County* to report this assessment.

Additional work is needed to better refine the performance measures. Given the maturity of the transportation system in the Bay Area, it is difficult to determine the impact of individual projects on relieving congestion, improving air quality, reducing greenhouse gases and increasing system reliability. The performance of the transportation system is monitored annually by the CMA through the CMP and documented in the annual State of the Transportation report.

Table 7.1—Performance Measures

PERFOR-MANCE MEASURE	LONG-RANGE GOAL	OBJECTIVE IN CMP STATUTE	REQUIRED DATA	HOW RESULTS CAN BE USED	CAUTIONARY NOTES CONCERNING USE OF THE DATA
Average Highway Speeds	Improve Mobility Improve Air Quality	Mobility Air Quality	Current Requirement Average speeds on CMP network	LOS determinations. Trigger Deficiency Plans. Evaluate direct effectiveness of projects in relieving congestion.	Adequate for determining CMP conformance. Caution in use as a measure of mobility.
Travel Time Transit, Highways, HOV Lanes	Improve Mobility Increase Transit Use Improve Air Quality	Mobility Air Quality Land Use	Average travel time between selected origin-destination pairs Obtain from annual LOS monitoring data and transit schedules	Useful in analyzing trends, comparing alternatives or as an evaluation of the effectiveness of the Plan. Problems can be spotted for targeted investment. Can compare travel times via roadway and transit along major corridors.	Caution in a reliance on data collected on a few days each year which is not always representative of conditions throughout the year.
Duration of Traffic Congestion	Enhance Econ. Vitality (expedite freight move-ment)	Economic Air Quality	Hours of congestion at key locations	Could be used as a trigger for certain traffic management strategies to contain congestion to normal peak periods to maintain smooth truck travel during mid-day.	Caution in a reliance on data collected on a few days each year which is not always representative of conditions throughout the year.

PERFOR-MANCE MEASURE	LONG-RANGE GOAL	OBJECTIVE IN CMP STATUTE	REQUIRED DATA	HOW RESULTS CAN BE USED	CAUTIONARY NOTES CONCERNING USE OF THE DATA
Roadway Main-tenance	Ensure service-able operation of existing facilities	Economic	MTC's Pavement Condition Index	$ amount of maintenance backlog for MTS roadways. Useful in guiding investment decisions for roadway maintenance needs.	Reliability dependent on subjective assumptions made by local agency staff. Assumptions can change annually depending on staff person conducting the estimate.
Roadway Accidents on Freeways	Improve Mobility Ensure service-able operation of existing facilities	Mobility Air Quality	Number of accidents/ number of miles from Switter/ TASIS System	Identify safety issues. Useful in guiding investment decisions.	Data not available for local streets/roads. Accidents may not be caused by physical facilities.
Completion of County-wide Bike Plan	Improve Mobility Improve Air Quality	Mobility Air Quality	Miles and percent completion of Bikeway Plan	Progress toward a connective system of countywide bikeways	Does not reflect actual use of bicycle facilities.
Transit Routing	Improve Transit Access and Increase Transit Use	Mobility Air Quality Land Use	Current CMP requirement	To determine area coverage and proximity of transit service to residential areas and job centers.	Proximity to transit stops or stations is an important indicator of accessibility; however, the data is difficult to collect.
Transit Frequency	Improve Transit Access and Increase Transit Use	Mobility Air Quality Land Use	Current CMP requirement. Number of lines operating at each frequency level	To determine convenience of transit service.	

PERFOR-MANCE MEASURE	LONG-RANGE GOAL	OBJECTIVE IN CMP STATUTE	REQUIRED DATA	HOW RESULTS CAN BE USED	CAUTIONARY NOTES CONCERNING USE OF THE DATA
Coordination of Transit Service	Improve Transit Access and Increase Transit Use	Mobility Air Quality	Current CMP requirement	To determine reliability and convenience for travelers connecting between services.	Current CMP requirement does not provide much information.
Transit Ridership	Increase Transit Use	Economic Air Quality Land Use	Number of patrons	Trend analysis; comparison between operators	Does a loss of transit ridership indicate that investment in transit should increase or decrease?
Transit Vehicle Main-tenance	Ensure service-able operation of existing facilities	Air Quality	Mean time between service delays (BART). Miles between mechanical road calls (AC, LAVTA, Union City Transit)	Trend analysis; comparison between operators. Transit agencies have internal standards for comparison and investment allocation decisions.	